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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,444	04/01/2004	Minoru Sudo	S004-5258	7771

7590 12/12/2005

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EXAMINER

TIBBITS, PIA FLORENCE

ART UNIT PAPER NUMBER

2838

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/815,444

Applicant(s)

SUDO ET AL.

Examiner

Pia F. Tibbits

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 4/11/2003. It is noted, however, that applicant has not filed a certified copy of the JP-2003107393 application as required by 35 U.S.C. 119(b).

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the microcomputer (external to the battery) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1,2 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Eguchi et al.** [hereinafter Eguchi] [5530336].

Eguchi discloses in figures 1-25 a battery pack with a remaining battery power calculating function comprising a secondary battery A connected between a plus side terminal and a minus side terminal; a protective circuit 1 for protecting the secondary battery from overcharge and over-discharge [see column 5, line 61]; a circuit operating with the minus side terminal as the reference to calculate a remaining capacity of the secondary battery 19 [see fig.2]; an N-channel MOS transistor (QC and QD) for controlling charge and discharge of the secondary battery upon receiving a signal from the protective circuit in order to protect the secondary battery [see fig.3B]; and a level shifter circuit 27 provided for a level shift of an electric potential of the minus side terminal to a negative electrode side electric potential of the secondary battery. Eguchi does not disclose one N-channel MOS transistor for controlling charge and discharge. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to make integral the N-channel MOS transistor QC for controlling charge and N-channel MOS transistor QD for controlling discharge, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routing skill in the art. *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965). See MPEP 2144.04.

As to claim 2, Eguchi discloses wherein the circuit for calculating the remaining capacity of the secondary battery monitors a charge current and a discharge current of the secondary battery to transmit the monitored results to a microcomputer external to the battery pack CPU [see fig.3A; column 8, line 55]. As to receiving data of remaining battery power calculated by the microcomputer: Eguchi discloses that the remaining battery power could be calculated [see column 7, lines 55-56]. One skilled in the art would be able to program the CPU to calculate the remaining battery power without undue

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experimentation, since a CPU is the part of a computer that does the primary computational functions [see IEEE, 7th edition, page 155].

5. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Eguchi et al.** , as described above, in view of **Johnson Jr.** [hereinafter Johnson] [5017856].

As to claims 3-6, Eguchi does not disclose the secondary battery is a lithium ion secondary battery.

Johnson discloses rechargeable batteries employing a lithium electrode generally provide a greater energy storage capacity per unit volume than other commercially available batteries used in portable products [see column 1, lines 2-25]. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Eguchi's apparatus and use a rechargeable batteries employing a lithium electrode, as disclosed by Johnson, in order to provide a greater energy storage capacity per unit volume than other commercially available batteries used in portable products.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in PTO-892 and not mentioned above disclose related apparatus.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Pia Tibbits whose telephone number is 571-272-2086. If unavailable, contact

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the Supervisory Patent Examiner Karl Easthom whose telephone number is 571-272-1989. The Technology Center Fax number is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PFT

December 6, 2005

Pia Tibbits

Primary Patent Examiner

A handwritten signature in black ink, appearing to be 'Pia Tibbits', written over the printed name and title.